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Article

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From handwritten copy to the printed page in Devanagari: investigating the curious case of Friedrich Max Müller¹

An author's role in the material production of text is generally not a subject that has received much attention² but there is particularly little research about authors' involvement and methods of working with texts comprising 'foreign' or unfamiliar scripts. In Britain, the period from late-eighteenth to mid-nineteenth century, being a time not only of progressive interest in the languages and literature of India but also of explorations and innovations in the printing of various scripts of the region, provided many such occasions where the authors – often pioneering scholars in their fields – had to contend with a new, or subsequently acquired script. Depending on the diverse reasons for which languages of the Indian subcontinent became the subject of study and scholarship in this period, the approaches of different authors to the respective scripts often varied widely in the process of producing books. Where grasping the rudiments of a language was the main focus – for instance, to conduct trade or carry out administrative duties – the script was often not of primary importance and transliteration in the Latin alphabet sufficed to provide a quicker, utilitarian approximation. Others who argued a close relationship between a language, its sounds, and the script used to represent them, or those who favoured a more comprehensive view of cultural and literary scholarship, found it necessary to include the relevant script in the process of learning and teaching Indian languages.³ This essay focuses on the Devanagari script and one such author/scholar of Sanskrit, Friedrich Max Müller (1823–1900), and in charting his engagement with the material fabrication of his texts it will hope to throw some light on the process of dealing with a script from handwritten copy to the printed page.

Max Müller was born in Germany but spent a greater part of his life in England, working in close connection with the Oxford University Press (he was also involved in the New Oxford English Dictionary project), Trübner, and with Longmans, to produce a large body of work on Sanskrit literature, among other things. It is of some interest, and perhaps not surprising, that this displacement of 'continental' scholarship functioning within a quintessentially English context, with a manifestly romanticised notion of India⁴ and its ancient mysteries should provoke a measure of doubt and disapproval,⁵ but for the most part Max Müller functioned in the mainstream of British interest in India and the related publishing industry.

It is known that the British were the last of the colonial powers to have acquired a press and put it to use in India, but their ensuing involvement proved to be the most sustained and consequential. In the latter half of the eighteenth century, when they effectively reintroduced printing in India on a larger scale, the endeavour began with the printing of translations into English from Sanskrit of the seminal works of Indian literature, philosophy, and jurisprudence – repositories of cultural knowledge made newly available in the European scholarly domain through the medium of print. This process comprised, and often fused, administrative and scholarly interests, manifested in both the content and the typographic form of the books.⁶ The cutting of new metal types was undertaken and commissioned for the first time for some of the scripts in the region

within this publishing framework. The project of transformation from ‘commercial adventurer to civil servant’ in India under Warren Hastings, which facilitated a liberal approach to the languages and classical literature of the country,⁷ continued until Lord Macaulay’s intervention in 1835 when it was decided that ‘the great object of the British Government ought to be the promotion of European literature and science among the natives of India’. Up to that point, as Harish Trivedi has observed:

British presses in India printed and propagated mainly Indian books either in English or in the original Indian languages. The traffic in books and knowledge was nearly all one-way, from the margin to the centre.⁸

The period from the late-eighteenth to around mid-nineteenth century has been variously described as an ‘Orientalist renaissance’ or the golden age of the rediscovery of classical Indian thought and literature.⁹ The sociocultural and political dynamics of the texts produced during, and subsequent to, this key period underwent a radical – though gradually formulated – change. The material transformation evidenced in attitudes and approaches to Oriental scholarship again varies widely, depending largely on the individual author’s sympathies. For instance, whether to use the Devanagari script in works on, and of, Sanskrit literature or to use systems of transliteration to represent the language had been a divisive consideration for the scholars/authors since the beginning of their engagement. Discussions on the subject can be found prominently in the prefaces and introductions of a majority of their works. This conferred greater responsibility, and added further value, to the role of an author in defining the concrete details of the text. For the most part, nineteenth-century Orientalist scholarship continued to foreground the author’s concern for the materiality of the text and had both immediate implications and lasting significance for printing and publishing in languages and scripts of the Indian subcontinent.¹⁰

Max Müller, in his autobiography, presents a striking picture of the work involved in preparing a copy from Sanskrit manuscripts – in the process, emphasizing the details and issues that would not pose the same problems for scripts familiar to all the parties involved in textual production. In Britain, an interest in the culture and classical literatures of India had fuelled the collection of ancient and contemporary manuscripts since the seventeenth century. Beside institutional archives many scholars, travellers, and those in various British services had considerable collections of their own.¹¹ Having access to Sanskrit manuscripts in various libraries and private collections, in the absence of easier duplicating methods, many young scholars across Europe appear to have been employed to put in the manual labour of making accurate copies of manuscript sources for use by more advanced, or at least more well-to-do, scholars.¹² The copy was then used as a source for reference and collation with other versions of the same text, as manuscripts tended to vary in their ‘corruptions and omissions’, and often the scholar’s task consisted of an attempt to ‘restore the [original] text’.¹³ Describing the difficulties of making copies from manuscripts for his six-volume *Rig Veda*, Max Müller writes:

I had, of course, to do all the drudgery for myself, and I soon found out that it was not in human nature, at least not in my nature, to copy Sanskrit from a MS. even for three or four hours without mistakes. To my great disappointment I found mistakes whenever I collated my copy with the original. I found that like the copyists of classical MSS. my eye had wandered from one line to another where the same word occurred, that I had left out a word when the next word ended with the same termination, nay that I had even left out whole lines. Hence I had either to collate my own copy, which was very tedious, or invent some new process. This new process I discovered by using transparent paper, and thus tracing every letter. I had some excellent *papier vegetal* made for me, and, instead of copying, traced the whole Sanskrit MS. This had the great advantage that nothing could be left out, and that when the original was smudged and doubtful I could carefully trace whatever was clear and visible through the transparent paper. [...] Even now, after more than fifty years, these tracings are as useful to me as the MS. itself.¹⁴

The ingenious method of using tracing paper would not have been available to eighteenth-century scholars. The invention and manufacture of tracing paper is usually attributed to Barthélémy de Canson, of the Montgolfier-Canson paper-making company based in France,¹⁵ but it is also found elsewhere described as ‘a German invention’¹⁶ – perhaps an indication of the extensive use of tracing paper with the growth of Indology as a discipline in Germany. In any case, it is clear that tracing paper had made a commercial appearance by the end of the first decade of the nineteenth century. Max Müller’s claim to having invented ‘a new process’ in copying the manuscript sources may very likely have derived from his stay in Paris, and especially from his interaction with Eugène Burnouf and other French scholars of Sanskrit. The use (or abuse – depending on certain viewpoints) of tracing paper in its various professional applications had certainly been under consideration and critical scrutiny before Max Müller could have discovered its benefits. The architect and critic Gottfried Semper had denounced the invention of tracing paper on the grounds that it made copying easier for architects – something he considered detrimental to the profession.¹⁷ There is certainly some indication that tracing paper was prominently in use as a teaching aid for foreign scripts.¹⁸ Further investigation will be required to ascertain the extent to which it was used for copying manuscripts by authors, especially those for whom the script in question was a secondary acquisition. Also the possibility and efficacy of providing the printer with copy to work from, using such methods, remains to be determined. What is more certain is that Max Müller used a considerable amount of ‘copying paper’ during and immediately following his stay in Paris in 1846, about the time the *Rig Veda* project began to materialise. For this period, in his ‘carefully kept accounts there are very few entries but for dinner ... and for copying paper, the amount of which shows how hard he was working’.¹⁹

Even when the correctness of the copy was ensured, there was usually no getting away from what Charles Wilkins, in his Sanskrit grammar of 1808, had called ‘the usual accidents of the press’.²⁰ An author, working in full awareness of reduced reliability on the efficacy of intermediaries in the production of his text, had either to allow for these ‘accidents’ or actively intervene to ensure precise execution of the copy. But on occasion,

quite the contrary seems to have been the case. Max Müller's autobiography is again the original source of a frequently quoted description²¹ of compositors' work in setting Sanskrit in Devanagari type, which presents a particularly striking instance of reversal:

In providing copy for a work of six volumes [of the *Rig Veda*], each of about 1000 pages, it was but natural that *lapsus calami* should occur from time to time. What surprised me was that several of these were corrected in the proof-sheets sent to me. At last I asked whether there was any Sanskrit scholar at Oxford who revised my proof-sheets before they were returned. I was told there was not, but that the queries were made by the printer himself. That printer was an extraordinary man. His right arm was slightly paralysed, and he had therefore been put on difficult slow work, such as Sanskrit. There are more than 300 types which a printer must know in composing Sanskrit. Many of the letters in Sanskrit are incompatible, i.e. they cannot follow each other, or if they do, they have to be modified. [...] In writing I had sometimes neglected these modifications, but in the proof-sheets these cases were always either queried or corrected. When I asked the printer, who did not of course know a word of Sanskrit, how he came to make these corrections, he said: "Well, sir, my arm gets into a regular swing from one compartment of types to another, and there are certain movements that never occur. So if I suddenly have to take up types which entail a new movement, I feel it, and I put a query." It was certainly extraordinary that an unusual movement of the muscles of the paralysed arm should have led to the discovery of a mistake in writing Sanskrit.²²

The description, in its various appearances elsewhere, is invariably shortened to exclude the somewhat significant detail of the compositor's paralysed arm – a particularly interesting indicator of the expectations of production speed in the 'difficult slow work' of Sanskrit typesetting.

Besides representing the extraordinary practical intelligence of the workplace, this anecdote is one of the few that acknowledge the author's interaction with other workmen in the production process. It is especially curious that Max Müller credits the compositor for the corrections in the proofs but does not mention John Cripps Pembrey (Jnr), whose work as 'Oriental proof reader' at the Oxford University Press, especially towards the latter part of his career, is widely acknowledged by many other scholars and authors.²³ It is known that Pembrey worked on H. H. Wilson's *Sanskrit Grammar* in 1847 as well as all six volumes of Max Müller's *Rig Veda*²⁴ and from then on for 'all but seventy years [...] a record in the history of Oriental, and most probably of any, professional proof reading for the press'.²⁵

Very little is known about compositors or their practices in the process of typesetting books in a syllabic script like Devanagari – this becomes particularly interesting when we consider the various difficulties inevitable in the situation. Joseph Moxon in his *Mechanick exercises* (1683) writes that a 'good compositor reads his Copy with consideration; and consequently considers how to order his Work the better'.²⁶ The more usual case with compositors setting Devanagari type was that they could not read

the script or decipher the language, which was usually Sanskrit and at other times Hindi/Urdu. But surprising as it may seem, this was mostly not in any way a handicap. To quote Moxon again, ‘a good natural genius’ was to be expected in compositors and the ones working with Devanagari certainly did not disappoint, if Max Müller’s unnamed compositor is anything to go by. Books functioning as aids to compositors’ work in foreign scripts had begun appearing by the mid-1800s. Frederick Ballhorn’s 1852 German manual of alphabets of ancient and modern languages was published in English as *Grammatography* in 1861, with the express hope of being consulted by the ‘philological student, the amateur linguist, the bookseller, the corrector of the press, and the diligent compositor’. For its listing of Sanskrit, it states:

The similarity of shape occasions mistakes in correcting proofs; it may therefore be of advantage both to compositors and readers of proofs to make use of the annexed numbers of reference.²⁷

The book seems to have proven useful in the training of compositors in the setting of Sanskrit. It was used at eminent printing and publishing establishments, like Stephen Austin of Hertford, and a few boards stamped in the system prescribed by the book appear to have survived well into the twentieth century.²⁸ The 328 sorts for Sanskrit thus listed, provided an alternative, more systematic method, as opposed to going by the feel, for the composition of Devanagari text by simply referring to numbered sorts instead of having to deal with identification or recognition of letters. How useful this turned out to be remains to be examined in detail, but this logical simplification certainly points to a larger demand for Devanagari typesetting – and consequently for compositors who could be trained quickly to work by referring to numbers instead of the characters themselves. Ballhorn’s book is one of the few substantial documents concerned with compositors’ work in scripts other than Latin and is instructive even in the present technological context of type-related work in scripts, especially those of the Indian subcontinent, where similar systems of reference continue to be used for easier identification of characters in the process of communication between various parties involved.

Although books like *Grammatography* may have acted as aids in the training of compositors, going by the ‘feel’ still seems to have been the predominant method in working with most foreign types. The conventional method, described by James Moran, was to put ‘local boys, rarely of more than elementary education’ as compositor-apprentices on the usual Latin setting and then ‘to try them out on the “exotic” types’.²⁹ If they took to it, or ‘[had] the feel’ for the work, they were introduced to setting type in different languages – languages which they did not necessarily have to understand, and which they did not usually learn, in order to accomplish their task. Typefounding and hand-composition of Devanagari type presented challenges of a formidable nature from the beginning but in spite of the difficulties – or perhaps because of them – compositors were often not unwitting impediments but active co-workers in the production and transformation of texts from hand-written copy to printed books. They could, and did, like Max Müller’s compositor, act as acutely sensitive intermediaries.

Process-documents like printer's copy, rough drafts, trials, proof-sheets or layout sketches appear not to have survived the production of Max Müller's books that involved Devanagari text. The narrative of the process, in the absence of these primary sources has to be constructed, to the degree possible, through indirect means and references to material that would have been used but has either been destroyed or lost. Checking the text for errors in copy and in its printed manifestation was certainly an integral part of the process of textual production, especially in the context of Devanagari composition, and reference has been made earlier to the often-unacknowledged presence of the proof-readers in early Sanskrit works printed at the Oxford University Press. In addition, the circuit of communication was certainly not limited to that between author and printer, or author and publisher – it often involved other authors, attuned to working with a wholly different set of processes. Max Müller sent the proof-sheets of his text for the *Rig Veda* to Eugène Burnouf in Paris, and in a letter dated 18 October 1847 wrote to him that:

This first sheet has cost me much time and trouble, as they had not sufficient types at Oxford, which caused endless delay. Now that they have founded the accented letters, I hope to get on faster, but I send this first sheet because if you have any serious objections to the general plan I have adopted [...] I could still make necessary alterations.³⁰

To this Eugène Burnouf replied in a letter dated 9 November 1847:

I thank you for having sent me the sheets of your grand edition of the *Rig-veda*. I use the word grand, not to avoid saying excellent, because I consider it both grand and excellent, but because I must express my admiration of Professor Wilson's fine and vigorous Devanâgarî type. I have examined your sheets, and I must own that I am astonished that in so short a time you have been able to master the mass of materials at hand. One has a right to demand of an editor a correct list, a suitable division of words, an indication of the Hindu divisions according to the two systems, the text so far separated from the Commentary that they can never be mistaken for the other, a reproduction of the Pada MS. and position of the accents according to the copies of the Rishis. You have given all this with exemplary care and completeness.³¹

The typographic and presentational concerns in this exchange are self-evident and it is instructive that this level of compositional detail was considered and discussed between authors and scholars in the production of their books within the field of Oriental scholarship. The relationship of typographic design and visual representation to the textual content it presents is of acknowledged importance here – being an integral part of the authors' concern for the presentation of meaning on the page. The extent to which Max Müller was involved in the typographic design and layout of his books is even more prominently evidenced, for instance, by the textual arrangement of *The first book of the Hitopadeśa: containing the Sanskrit text with interlinear transliteration, grammatical analysis and English translation*³² published in 1864 – one of a series of handbooks for the study of Sanskrit intended for two distinct classes of readers, 'candidates for the

Indian Civil Service' and the 'steadily increasing number of scholars' interested in Comparative Philology.³³ The interlinear setting of the book, though not novel in itself, substantiates a concern for the printed form and layout considerations that would have gone into the production of the text from its inception, and not as an afterthought. Max Müller's involvement didn't stop at the level of text and layout either:

With the thoroughness that he carried into all his work, he made himself master of the details of printing, binding, and publishing, the cost of ink and paper, the proper charges for corrections and advertisements, and he used laughingly to say that the highest compliment he ever received was what Mr. William Longman, half in admiration and half provoked, said of him to Mr. Froude, 'As to your friend Max Müller, he can skin the flints in Paternoster Row!'³⁴

This authorial concern with the material production of the book was, to a large extent, characteristic of most Orientalist scholars of the nineteenth century but very few documents or descriptions have survived that illustrate the process in detail. Max Müller's case, as far as the production of texts with the Devanagari script are concerned, is of great interest as he is one of the few authors who have written about their own processes in dealing with manuscript and print and about the various collaborative interactions involved in putting a text together in book form. However, as Frans Janssen puts it, '[the] question of authorial authorisation of (aspects of) typographical design is fairly complex'.³⁵ In all probability, the author's directions for or interest in the material details of the text could not have been comprehensive enough to determine all of the final outcome. In common publishing practice, it was not unusual for the autograph copy of the author to be revised by an intermediary from the printing/publishing establishment concerned.³⁶ Max Müller in his own account seems to suggest that, at least for the earliest books he worked on, he provided copy for the compositor directly, and without the intervention of other workmen who could have broadly determined the details of layout and composition. In making Sanskrit text available in the form of ready copy, it is not clear if the author had more control, and influence, on typographical matters than in other instances that did not require specialised knowledge of a different script. A comparison of Max Müller's notebooks and the printed pages of some of his books indicates the plausibility of his assertion to some extent,³⁷ however, no actual relevant document is available to substantially corroborate the manner of working. Further research in this area would be of interest, especially in analysing to what extent the typical Sanskrit manuscript – usually a long horizontal format, largely devoid of punctuation – could have been transcribed and translated into the codex form of the printed book, complete with the paratextual apparatus and conventions of the Latin script for Sanskrit text. The typographic constructions of the content would certainly have required some crucial decisions to be made in this transformation, first of all by those functioning as copyists, authors, or editors of Sanskrit texts and only subsequently by others along production and publication channels. In this light, processes prior to composition and actual printing

acquire a new significance – and the role of the author a new dimension – in the development of typographic convention in Devanagari.

Notes

1. The reference is to Hugh Lloyd-Jones, 'The curious case of Max Müller', *The New York review of books* (20 March 1975), Vol. 22, No. 4: 'Few eminent Victorians have been so much forgotten as Max Müller; and few academic reputations that were once as high as his have fallen so low.'
2. Of the many notable exceptions, see Allan Dooley, *Author and printer in Victorian England* (University of Virginia Press, 1992), Anne Henry, et al, *Ma(r)king the text: the presentation of meaning on the literary page* (Aldershot: Ashgate, 2000); Paul C. Gutjahr and Megan L. Benton (eds.), *Illuminating letters: typography and literary interpretation* (Cambridge: University of Massachusetts Press, 2000); Frans Janssen, 'Author and printer in the history of typographical design' in *Technique and design in the history of printing* ('t Goy-Houten: Hes & De Graaf, 2004), p. 13–38.
3. See Tej K. Bhatia, *A history of the Hindi grammatical tradition: Hindi- Hindustani grammar, grammarians, history and problems* (Leiden: E. J. Brill, 1987), p. 93.
4. Max Müller never visited India but described the country as 'most richly endowed with all the wealth, power and beauty that nature can bestow – in some parts a very paradise on earth'. Quoted in Peter Sutcliffe, *The Oxford University Press: an informal history* (Oxford: Clarendon Press, 1978), p. 47. See also, Hugh Lloyd-Jones, *loc. cit.* (note 1).
5. Max Müller's enthusiastic appraisal of the culture and religion of ancient India – consequently seen as a 'vested interest' in the survival of Hinduism – and the question of his loyalties within the colonial enterprise may also have played a part in his unfavourable reception at critical junctures. He lost the election for a Chair as Boden Professor of Sanskrit in 1860 to Monier Williams, largely on a matter of policy – the Chair had been established under the auspices of the East India Company to facilitate the training of missionaries for the propagation of Christianity and Max Müller's work in relation to religion in India did not support this position. See Sutcliffe (1978), p. 42.
6. See for instance, Nathaniel Brassey Halhed, *A code of Gentoo laws* (London: 1776), and also his *A grammar of the Bengal language* (Hoogly: 1778), John Brothwick Gilchrist, *A grammar of the Hindoostanee language* (Calcutta: 1796), Charles Wilkins, *A*

grammar of the Sanskrita language (London: 1808). Many of these early books propelled by scholarly interest were sanctioned directly by the administration, and as Halhed's infamous preface to *Bengal language* put it, added the 'Language[s] to its acquisitions' (p. ii).

7. David Kopf, *British Orientalism and the Bengal renaissance: the dynamics of Indian modernization, 1773-1835* (Berkeley: University of California Press, 1969), p. 22: 'The intellectual elite that clustered about Hastings after 1770 was classicist rather than "progressive" in their historical outlook, cosmopolitan rather than nationalist in their view of other cultures ...'.

8. Harish Trivedi, 'The "Book" in India: orality, manu-script, print (post) colonialism', in Robert Fraser and Mary Hammond (eds.), *Books without borders: perspectives from South Asia*, Vol. 2 (New York: Palgrave Macmillan, 2008), pp. 12–33 (p. 15).

9. David Kopf, *British Orientalism and the Bengal renaissance: the dynamics of Indian modernization, 1773–1835* (Berkeley: University of California Press, 1969), p. 2.

10. This is significant in the context of languages (or specific dialects) even more than for scripts – a hierarchy of immediate importance meant that certain languages were considered more prominent and worthy of attention than others. The association of scripts with specific languages, and the appropriate choice for the same within this framework, also found consolidation in the process – 'Hindustani', which was written in both Perso-Arabic and Devanagari, is one such case in point. See for instance Christopher King, *One language, two scripts: the Hindi movement in nineteenth century north India* (Bombay: Oxford University Press, 1994).

11. For instance, the collections of Alexander Walker, H. H. Wilson, Monier-Williams, and later Sir Marc Aurel Stein and many others, subsequently donated to or acquired by the Bodleian.

12. F. Max Müller, *My autobiography: a fragment* (New York: Charles Scribner's Sons, 1901), p. 173, 176.

13. F. Max Müller and Bunyiu Nanjio (eds.), *Sukhavati-Vyuha: description of Sukhavati, the land of bliss* (Oxford: The Clarendon Press, 1883), p. xi–xii.

14. F. Max Müller, *My autobiography: a fragment* (New York: Charles Scribner's Sons, 1901), p. 179. The last sentence of the passage quoted here leads one to believe that the tracings would have been preserved but no such documents were found in the collection of Max Müller's papers held at the Bodleian. The only documents on tracing paper are a few letters in Ms. Ger. d.22, ff. 260–264, which were not used for the purpose of copying.

15. *Le papier a l'oeuvre: catalogue de l'exposition au Louvre* (Paris: Musée du Louvre éditions, 2011).
16. Edward and Francis N. Spon (eds.), *Spons' mechanics' own book: a manual for handicraftsmen and amateurs* (London: E. & F. N. Spon, 1885), p. 9–10.
17. Gottfried Semper, *Vorläufige Bemerkungen über bemalte Architectur und Plastik bei den Alten* (Altona: Johann Friedrich Hammerich, 1834), translated by H. F. Mallgrave and Wolfgang Hermann in *Gottfried Semper: the four elements of architecture and other writings* (New York: Cambridge University Press, 1989), p. 45–73. Semper denounces 'the invention of tracing paper (which leads architects to copy)'.
18. Edward and Francis N. Spon (eds.), *Spons' mechanics' own book*. Curiously enough, the description provided by the authors here ascribes a very specific function to the use of tracing paper: 'The object of making the paper translucent is that when used in schools the scholars can trace the copy, and thus become proficient in the formation of letters without the explanations usually necessary...' (p. 9).
19. Georgina Max Müller (ed.), *The life and letters of the Right Honourable Friedrich Max Muller* (New York, Bombay: Longmans, Green, & Co., 1902), Vol. 1, p. 31.
20. Charles Wilkins, *A grammar of the Sanskrita language* (London: 1808): 'Much attention was uniformly applied to correct the usual accidents of the press; but notwithstanding all my vigilance, upon a recent revisal of the whole, I am sorry to find that too many had escaped my notice. [...] The Devanagari character, as well as the language, being entirely new to the compositor [...] must be my apology for the length of this table [of errata].' (Preface, p.xiv)
21. An abbreviated description appears in Nirad Choudhury, *Scholar extraordinary: the life of Professor the Rt. Hon. Friedrich Max Muller, P.C.* (London: Chatto and Windus, 1974) p. 138. See also Peter Sutcliffe, *The Oxford University Press: an informal history* (Oxford: The Clarendon Press, 1978), p. 45; and Robert Fraser, *Book history through postcolonial eyes: rewriting the script* (London and New York: Routledge, 2008), p. 61.
22. F. Max Müller, *My autobiography: a fragment* (New York: Charles Scribner's Sons, 1901), p. 218.
23. See for instance, Arthur A. Macdonell, *A Sanskrit-English dictionary* (Oxford: The Clarendon Press, 1893), Preface, p. xi; Sir Monier Monier-Williams, *A Sanskrit-English dictionary* (Oxford: The Clarendon Press, 1899), Preface, p. x; Maurice Bloomfield, *A Vedic concordance* (Cambridge, Massachusetts: Harvard University, 1906), preface, p. xi.

24. Peter Sutcliffe, *The Oxford University Press: an informal history* (Oxford: The Clarendon Press, 1978), p. 45.
25. Arthur A. Macdonell, *A Vedic grammar for students* (Oxford: The Clarendon Press, 1916), Preface, p. viii.
26. Joseph Moxon, *Mechanick exercises: or, the doctrine of handy-works. Applied to the art of printing* (London: Moxon, 1683; reprinted in facsimile: New York: The Typothetæ, 1896; London: Oxford University Press, 1956), p. 220.
27. F. Ballhorn (based on the German compilation of), *Grammatography: a manual of reference to the alphabets of ancient and modern languages* (London: Trübner and Co., 1861), p. 36.
28. James Moran, *Stephen Austin of Hertford: two hundred years of print* (Hertford: Stephen Austin and Sons, Limited, 1968), p. 28.
29. Ibid p. 28.
30. Georgina Max Müller (ed.), *The life and letters of the Right Honourable Friedrich Max Muller* (New York, Bombay: Longmans, Green, & Co., 1902), Vol. 1, p. 66.
31. Ibid, p. 67. At the present stage of this research it has not been possible to verify if proof-sheets mentioned here survive in the papers of Eugène Burnouf, preserved at the Bibliothèque Nationale de France, Paris.
32. F. Max Müller, *The first book of the Hitopadesa: containing the Sanskrit text with interlinear transliteration, grammatical analysis and English translation* (London: Longman, Green, Longman, Roberts, & Green, 1864). The typographic arrangement is based on the popular self-instruction books of the period; interlinear word-for-word translation was marketed variously under the title of ‘Locke’s system’ or the ‘Hamiltonian system’. See for instance, Christopher Stray, ‘John Taylor and Locke’s Classical System’, *Paradigm*, No. 20, July, 1996; and Ernest Blum, ‘The new old way of learning languages’, *The American Scholar*, 77.4, Autumn 2008, pp. 80–88.
33. Georgina Max Müller (ed.), *The life and letters of the Right Honourable Friedrich Max Muller* (New York, Bombay: Longmans, Green, & Co., 1902), Vol. 1, p. 316.
34. Ibid, p. 305.
35. Frans. A Janssen, ‘Author and printer in the history of typographical design’ in *Technique and design in the history of printing* (’t Goy-Houten: Hes & De Graaf, 2004), p. 34.

36. See for instance Percy Simpson, *Proof-reading in the sixteenth, seventeenth and eighteenth centuries* (Oxford: Oxford University Press, 1935).

37. Among Max Müller's papers held at the Bodleian, see the notebook containing 'Notes on Sanskrit', Ms. Ger. d.23, f. 105, and for instance, the comparable printed pages in his *A Sanskrit grammar for beginners* (London: Longmans, Green and Co., 1866) give an indication of this correlation.

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F. Max Müller, *The hymns of the Rig-Veda in the Samhita and Pada texts* (2nd ed.), vol. 1, with the two texts on parallel pages. (London, 1877). This second smaller edition of Müller's *Rig-Veda* text differed from the first in its primary focus on the 'requirements of students in India' – more precisely their examination requirements. A Romanised transliteration of the same text was prepared prior to this edition by Prof. T. Aufrecht with assistance from the German Oriental Society. For that work Max Müller lent his MSS. to Prof. Aufrecht, not his transcript of the MSS – he is remarkably precise in making the distinction, indicating the practical value of his own copy. The smaller Devanagari edition was proof-read by Dr. Thibaut, a Sanskrit scholar, who was engaged on Max Müller's specific request to be 'relieved from the task of correcting the proof sheets'. Max Müller however supplied his own copy of the first edition marked with corrections over the years. Both Thibaut and Max Müller acknowledge the 'zeal of printers, both at Oxford and Hertford, who vied with each other in producing the most faultless proof-sheets' (p. vii).

IMG_02

Grammatography: a manual of reference to the alphabets of ancient and modern languages (London, 1861), based on Freidrich Ballhorn's German book *Alphabete orientalischer und occidentalischer Sprachen* (1852), which saw nine editions before being translated and expanded into an English edition. The original used August Wilhelm Schlegel's Sanskrit type, cut in 1823, and listed 174 sorts, while the English edition listed 328 sorts of the Devanagari type attributed to the foundry of V&J Figgins.

IMG_03

F. Max Müller, *The first book of the Hitopadeśa: containing the Sanskrit text with interlinear transliteration, grammatical analysis and English translation* (London, 1864). This arrangement was explicitly oriented towards self-instruction, so that those 'not able to command the assistance of an efficient teacher will be able by themselves to read, parse, and translate every word...' (p. vi). The interlinear format here is particularly interesting in view of the extremes of conjoined, long Sanskrit words, which in the English transcription and translation necessitate breaking up into constituent components. Interestingly, Dr. F. Kielhorn prepared the manuscript of this book 'as here printed' following the principles outlined by Max Müller, almost in the manner of a designer – a rare instance of typographic decision-making outside of the printing works for Devanagari texts.